21CSI®
21ST CENTURY SYSTEMS, INC.
♦9800 Connectitcut Drive♦Crown Point♦Indiana♦46307♦USA 219-644-3235 (O)♦219-644-3236 (F)♦www.21csi.com

August 10, 2007

Tim Sanders, Executive Director
Regional Development Authority
9800 Connecticut Drive
Crown Point, IN 46307

Dear Tim:

Many thanks to you and the RDA board workgroup who so generously afforded us the opportunity to present TRACS for funding consideration.

Mr. Snyder instructed us to refine our request for consideration by the full RDA Board at its August meeting. Attached is a white paper which satisfies that request.

Note that we have refined the scope of the project and tailored deliverables to the specific needs of the RDA (i.e. the data acquisition & mining feature of TRACS which provides the capacity to analyze and understand the surface transportation relationships and performance in the NW Indiana transportation corridor).

I look forward to the decision of the full RDA Board on this important matter and invite questions that you or members of the Board may have.

Warmest Regards,

Robert J. Wichlinski
Director, Commercial Systems Group

Enclosure – TRACS White Paper

Challenge:
Indiana's Borman Expressway is one of the nation's most congested freeways, comprising the confluence of I-80/94, I-90, I-65, I-294 and I-394, and feeding commuter traffic to Chicago, intercontinental traffic between the coasts, as well as traffic destined for Canada. The Borman Expressway is currently undergoing an upgrade which incorporates the Indiana Department of Transportation's TrafficWise system, forming the basis for an Intelligent Transportation System (ITS). Despite this large financial investment and introduction of new roadside sensors, the expressway remains vulnerable to congestion in all but ideal conditions. While the ITS mechanisms incorporated in the new construction of the Borman satisfies the design criteria to monitor performance of the expressway and provide for rapid response to incidents, it does not provide for a Common Operating Picture (COP) and information processing to display all relevant information and incorporate real-time data feeds from the various sensors into the visualization.

Opportunity:
21st Century Systems, Inc (21CSI) is in the right place at the right time to meet this challenge. 21CSI is a pioneer in designing, developing, and fielding agent-based decision support systems for time- and mission-critical applications, primarily for the Department of Defense. 21CSI proposes to leverage our extensive experience in military decision support application development in order to develop a software application to address this challenge.

TRACS is designed as an Integrated Corridor Management System (ICMS) which will benefit all traveling motorists both commercial and individual commuters. TRACS is a sophisticated, highly automated command and control systems capable of receiving and fusing together traffic-related inputs from a variety of disparate sources. TRACS-Viz is a small "database and visualization" component which can be used as a rudimentary COP.

Description: 21CSI will author data acquisition interfaces to simultaneously access and store data from INDOT's TrafficWise system, NICTD's commuter rail dispatchers, and a commercially available weather system. 21CSI will then author a database to store the data. Finally, 21CSI will author a data analysis tool or "viewer" which will enable the user to conveniently query the data and develop performance illustrations for analysis and review.

Tasks:
1.) Construct a program development environment which will include workstation(s), server/storage system and broadband IP pipe to INDOT's "TrafficWise" system. (1 person-month)
2.) Develop and implement interface to INDOT's TrafficWise system. (2.5 person-months)
3.) Develop and implement interface to NICTD's commuter rail dispatch data. (2.5 person-months)
4.) Develop and implement interface to commercially available weather equipment. (2.5 person-months)
5.) Develop and implement data structures and database to store acquired data. (2 person-months)
6.) Develop a graphical and geospatial prototype application to provide the ability to conveniently query the database and illustrate/report results to the analyst. (4 person-months)

Deliverables (9-month period of performance):
1.) TRACS-Viz System Design Document (SDD)
2.) TRACS-Viz Software Users Manual (SUM)
3.) TRACS-Viz prototype software demonstration

ROM Cost:
$549,950.